

# United States Patent [19]

Gianopoulos et al.

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## [54] HEMORRHOID RETAINERS

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### Related U.S. Application Data

[63] Continuation of Ser. No. 690,619, Jan. 11, 1985, abandoned, which is a continuation-in-part of Ser. No. 393,132, Oct. 28, 1983.

[51] Int. Cl.<sup>4</sup> ..... A61F 13/00

[52] U.S. Cl. .... 128/98.1; 128/155; 128/168

[58] Field of Search ..... 128/98, 155, 156, 168, 128/169, 171; 604/337, 355

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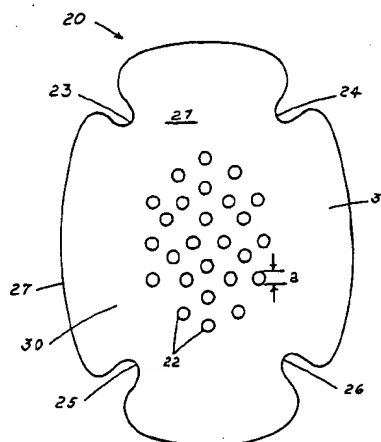
Attorney, Agent, or Firm—Jacobson and Johnson

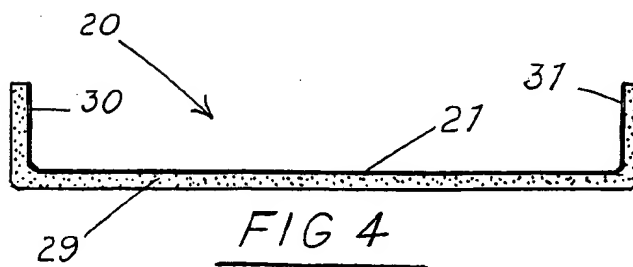
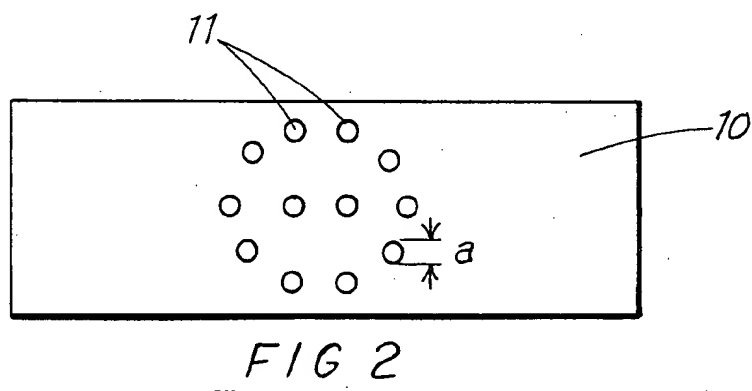
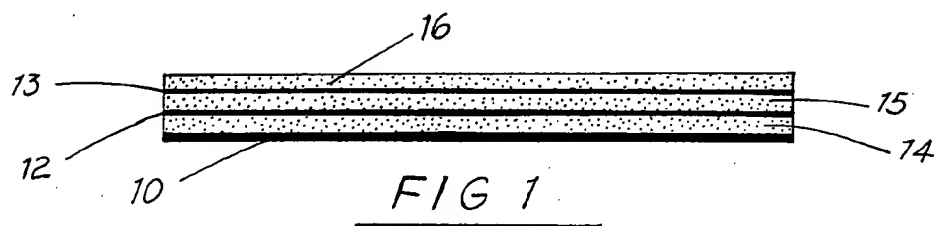
[57]

### ABSTRACT

A flexible yet strong member having an adhesive on one side which can be secured to the anal area to physically hold the hemorrhoids within the anal orifice with the member including means such as orifices to permit bowel gas or flatulence to rapidly escape therethrough without dislodging the hemorrhoid retainer from the anal area.

8 Claims, 4 Drawing Figures





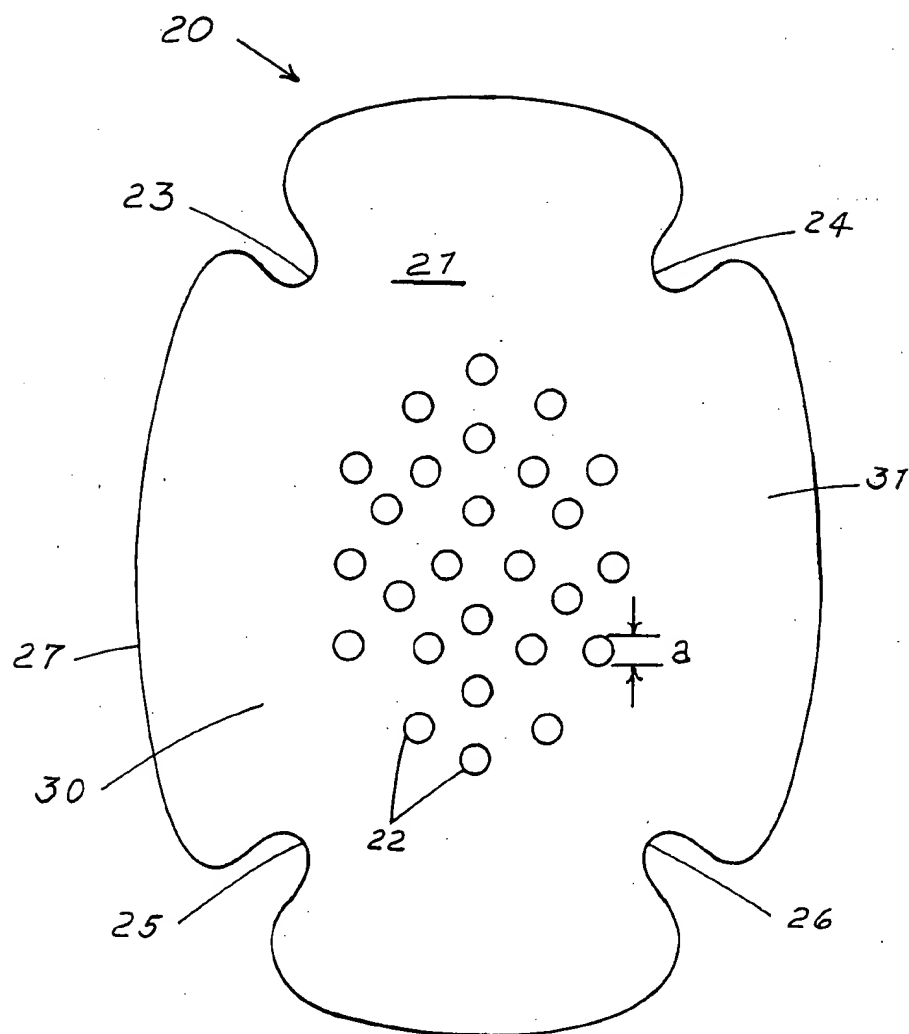


FIG 3

**HEMORRHOID RETAINERS****CROSS REFERENCE TO RELATED APPLICATION**

This application is a continuation of application Ser. No. 690,619, filed Jan. 11, 1985, now abandoned, which is a continuation-in-part of our U.S. patent application titled "HEM-AIDE MARK I", Ser. No. 393,132, deposited June 28, 1982, and filing completed on Oct. 28, 1983.

**FIELD OF THE INVENTION**

This invention relates primarily to medical devices and, more specifically, to disposable hemorrhoid retainers that can be quickly applied to securely and firmly hold hemorrhoids within the anal orifice.

**BACKGROUND OF THE INVENTION**

External protruding hemorrhoids generally cause pain and discomfort. In addition, if the hemorrhoids become bruised, they may bleed which may cause the person alarm and concern. Bleeding hemorrhoids may eventually require surgery since the available ointments, creams, jells and the like offer only temporary relief to the pain and itching and do not protect the hemorrhoid membranes from further bruising and bleeding. Typically, when external protruding hemorrhoids become bothersome, one must push the hemorrhoids into the anal area with one's fingers. However, insertion of the hemorrhoids into the anal area does not prevent the hemorrhoids from coming out again particularly if the person moves about. If the hemorrhoids continually protrude, usually the only option is to have surgery to remove them.

A disadvantage of available hemorrhoid preparations is that many people are hesitant about using them because they are, to some extent, invasive since some of the hemorrhoid preparations have to be placed inside the anal orifice.

The purpose of the present invention is to hold or retain hemorrhoids inside the anal orifice. If the hemorrhoids are held inside the anal orifice there is less chance of injury to the hemorrhoid membrane.

An advantage of our invention is that if the hemorrhoids are held within the anal orifice the bleeding is lessened and eventually may stop if our hemorrhoid retainer is used correctly and regularly. Therefore, it is an object of the present invention to fasten a hemorrhoid retainer around the anal area by means of an adhesive so as to firmly hold the hemorrhoids inside the anal orifice.

It is a further object of the present invention to prevent hemorrhoids from popping out at inopportune times.

It is an object of the present invention to make it unnecessary to continually have to push the hemorrhoids into the anal orifice such as with products such as jells, ointments, creams and the like.

It is an object of the present invention to possibly avoid hemorrhoidal surgery through regular and continual use of our retainer which holds the hemorrhoids inside the anal orifice.

It is an object of the present invention to allow flatulence to escape through the retainer to thereby eliminate dislodgement of the hemorrhoid retainer once it is installed.

It is an object of the present invention that as a consequence of using our invention over a period of time, it may not be necessary to continue to use our invention as the use of the invention may have a healing effect by preventing the hemorrhoids from being exposed to injury.

**DESCRIPTION OF THE PRIOR ART**

Other than surgery, the primary types of relief from pain of external hemorrhoids is the use of ointments, jells and creams which, by their own claims, give only temporary relief from hemorrhoidal pain. The hemorrhoid preparations presently on the market are intended as temporary relief agents. In addition, the available hemorrhoid preparations are messy and also soil the persons undergarments. Furthermore, none of these creams, ointments or jells truly solve the problem of keeping the hemorrhoids inside the anal orifice. That is, exertion or improper functioning of the anal sphincter may force the hemorrhoids out. The present invention, in contrast to the prior art jells and creams, supports and holds the hemorrhoids inside the anal orifice for prolonged periods of time.

There are known breathable tapes and bandaids which have been employed for other purposes. However, such devices are not suitable for use as a hemorrhoid retainer since they do not permit rapid escape of air therethrough. For example, Stenwell U.S. Pat. No. 3,888,247 shows a first aid bandage comprised of a microporous breathable surgical tape and a flexible backing. The Stenwell bandage is applied directly to the wound to maintain a proper positioning of the wound edges without interfering with the ventilation and drainage of the wound. This type of bandage is generally for wounds that require slow migration of air through the bandage, is unsuitable for use in anal areas since the flatulence would dislodge the bandage.

The Busee U.S. Pat. No. 3,763,858 shows a composite material with an adhesive for fastening two different materials together to form a breathable bandaid.

The Hodgson U.S. Pat. No. 3,645,835 shows a moisture-vapor-permeable pressure-sensitive adhesive material for use on animal skin and nails. However, no suggestion is made for use as a hemorrhoid retainer.

The Goldman U.S. Pat. No. 3,654,060 shows a multi-film or breathable sheeting which can be used as a protective covering in drapes or clothing for medical personnel and for hospitals.

**SUMMARY OF THE INVENTION**

The present invention comprises a flexible yet strong member having an adhesive on one side which can be secured to the anal area to physically hold the hemorrhoids within the anal orifice. The member includes means such as orifices to permit bowel gas or flatulence to rapidly escape therethrough without dislodging the hemorrhoid retainer.

**BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a front elevation of one embodiment of the present invention;

FIG. 2 is a top plan view of the invention shown in FIG. 1;

FIG. 3 is a top plan view of a second embodiment of the invention; and

FIG. 4 is a side elevation view of the invention of FIG. 3 in an applied position.

### DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1 and FIG. 2, reference numeral 10 identifies a multiple layered hemorrhoid retainer which comprises an oblong rectangular strip of non-toxic pure latex rubber 10. Located on one side of rubber 10 is a double-faced non-toxic tape 12 having an adhesive 14 on one side and an adhesive 15 on the opposite side. Adjacent to adhesive 15 is a single face non-toxic tape 13 which is located on adhesive 15 with its adhesive 16 exposed for application of retainer 10 to the anal area. Located in a spaced pattern that generally conforms to the shape of the anal opening is a plurality of openings 11 that extend completely through retainer 10. The holes or openings 11 have sufficiently open areas so as to allow rapid escape of flatulence therethrough without dislodging the retainer from the anal area.

In the application of our hemorrhoid retainer to the anal area one first pushes any external protruding hemorrhoids inside the anal orifice to permit the sphincter muscle to securely close. In order to obtain proper adhesion of the hemorrhoidal retainer, one should also clean and dry the anal area. Next, the hemorrhoidal retainer is applied to the anal area by positioning the retainer so that the openings 11 are located proximate the anal orifice. After proper positioning the hemorrhoid retainer one rubs the back of the hemorrhoid retainer 10 to force retainer 10 into adhesive contact with the anal area.

In the embodiment of FIG. 1 and FIG. 2 we preferably use a strip of non-toxic latex rubber 10 in conjunction with adhesive strips that can be used on humans. The use of latex rubber as the backing is preferable since it has sufficient strength to hold the hemorrhoids inside the anal orifice yet is sufficiently elastic enough to flex as the user moves about. In addition, the latex rubber does not irritate the user's skin and is therefore comfortable to wear for prolonged periods of time.

Referring to FIG. 3 there is shown our preferred embodiment comprising an oval shaped hemorrhoid retainer 20 including a single layer of material 21 which has sufficient strength to hold the hemorrhoids within the anal orifice yet sufficiently elastic so as to flex with movement of the user. Reference numeral 27 denotes the outer edge of retainer 20. Located in the central portion of hemorrhoid retainer 20 are a plurality of holes 22 having diameter  $a$ . The holes or vents 22 have sufficient open area so as to allow flatulence to rapidly escape therethrough. Located on the sides of retainer 20 are a plurality of relief areas. A first relief area 23, a second relief area 24, a third relief area 25 and a fourth relief area 26. Relief areas 24-26 coact to produce cut-away portions that permit side tab 31 to be folded as shown in FIG. 4. The purpose of the relief areas is to permit the hemorrhoid retainer to be fastened to both the anal area and the cheek area to thereby provide greater adhesion. The relief areas permit the side tabs of the hemorrhoid retainer to be folded over without producing creases or folds which would irritate the user. Consequently, our hemorrhoid retainer will securely and firmly hold the hemorrhoids in place yet be sufficiently comfortable so as not to annoy the user.

Typically the adhesives used to fasten our hemorrhoid retainer may be any adhesive which is non-toxic and which will adhere to the body. In use of the multiple layer embodiment in FIG. 1, we have found double-faced tape manufactured by the 3M medical group which can be applied to the non-toxic pure latex strip so that one side adheres to the latex. Next, a single-faced tape which is non-toxic and adheres to humans is applied to the opposite face. Typically a suitable single-faced adhesive tape is made by the Colgate-Palmolive Company for use on the human body and is sold under the name CUREX (trademark).

Although the embodiment of FIG. 1 shows two tapes in humans, the embodiment of FIG. 2 shows an example of a device which only one layer of support material is used and a single layer of adhesive is applied thereto.

We claim:

1. A hemorrhoid support device for a user having hemorrhoids that extend outside the anal orifice comprising a sheet having an adhesive layer on one side for attachment of said sheet to the anal area of the user having hemorrhoids that extend outside the anal orifice, said adhesive extending entirely across said sheet to thereby provide hemorrhoid support;

25 said sheet having sufficient flexibility so as to conform to the user's body movement yet sufficient strength so as to hold hemorrhoids within the anal orifice when said sheet is fastened over the anal orifice;

30 said sheet including at least one aperture to permit rapid egress of flatulence to thereby prevent flatulence from dislodging said hemorrhoid support device.

2. The invention of claim 1 wherein said hemorrhoid support device is generally oval shaped.

3. The invention of claim 1 wherein said invention includes relief areas to permit folding attachment of said invention to the anal area of a user.

4. The invention of claim 3 wherein said invention includes a plurality of tabs extending therefrom.

40 5. The invention of claim 1 wherein said sheet is latex rubber.

6. The method of preventing hemorrhoids from extending out of the anal orifice when the user moves about comprising the steps of:

pushing any external protruding hemorrhoids into the anal orifice;

cleaning the anal area to permit attachment of an adhesive-backed support sheet having at least one aperture positioned to permit rapid egress of flatulence thereto;

placing the adhesive-backed support sheet over the anal orifice to thereby adhesively contact the entire area around the anal orifice to provide a support to prevent hemorrhoids from popping out of the user's anal orifice as the user moves about.

7. The method of claim 6 wherein the adhesive backed support sheet has a plurality of openings and the step includes centering of the plurality of openings in the adhesive-backed support sheet over the anal orifice of the user.

8. The method of claim 7 wherein the user applies the hemorrhoid support device to the user's anal area.

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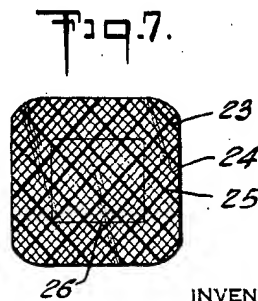
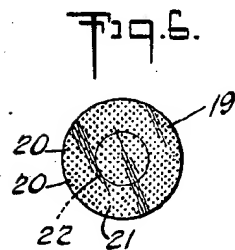
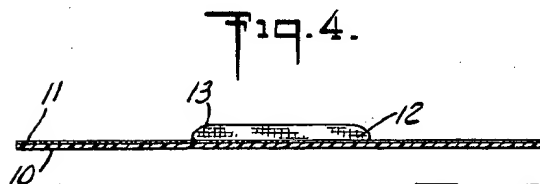
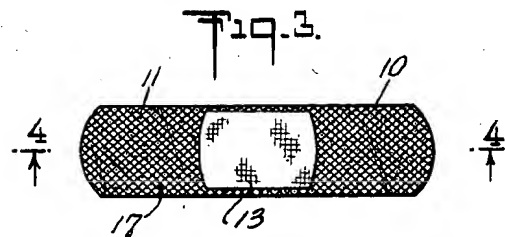
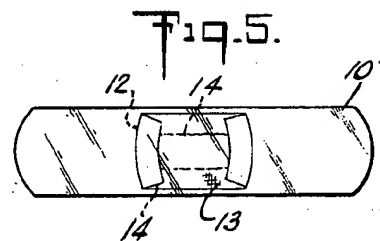
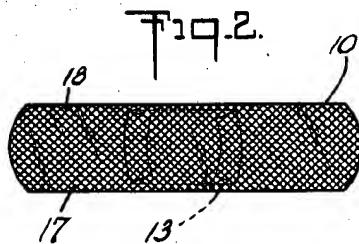
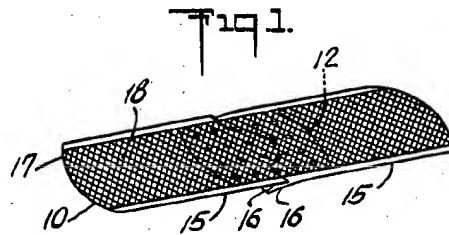
Sept. 22, 1959

C. W. SMITH  
ADHESIVE BANDAGE

2,905,174

Filed May 21, 1959

3 Sheets-Sheet 1



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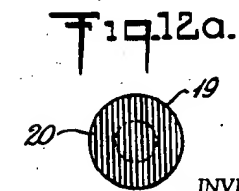
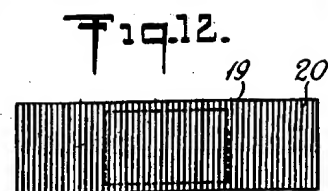
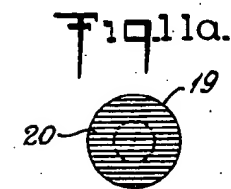
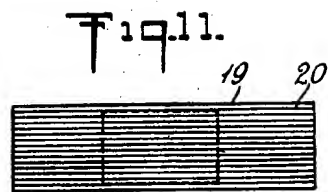
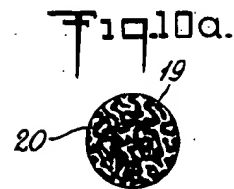
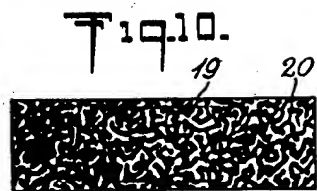
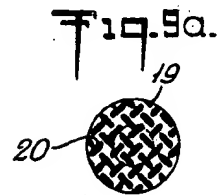
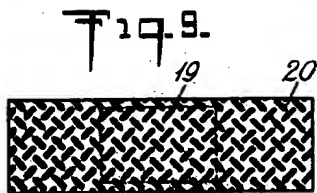
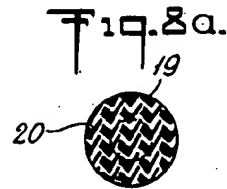
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ADHESIVE BANDAGE

2,905,174

Filed May 21, 1959

3 Sheets-Sheet 2



INVENTOR.  
CLIFFORD W. SMITH

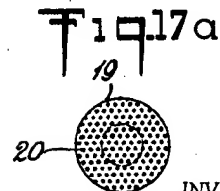
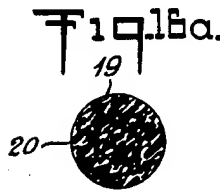
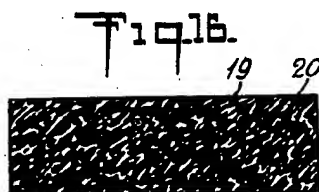
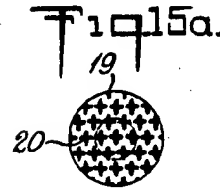
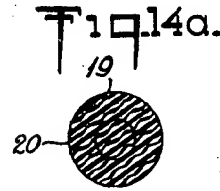
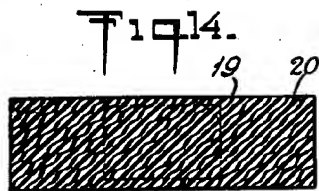
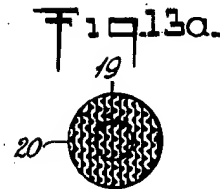
Sept. 22, 1959

C. W. SMITH  
ADHESIVE BANDAGE

2,905,174

Filed May 21, 1959

3 Sheets-Sheet 3



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2,905,174

## ADHESIVE BANDAGE

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Application May 21, 1959, Serial No. 814,849

12 Claims. (Cl. 128—156)

The present invention relates to adhesive bandages and more particularly to adhesive bandages of the type wherein an absorbent dressing is carried by an adhesive-coated flexible backing. The present application is a continuation-in-part of co-pending application Serial No. 686,766, filed September 27, 1957.

Small adhesive bandages of the "spot" and "strip" type wherein an absorbent pad is carried by a flexible adhesive-coated backing have become generally accepted and are widely used for the treatment and protection of small cuts, scratches, and other superficial lesions of the skin. These bandages are worn in public and, because such superficial lesions generally occur on unprotected exposed areas, are frequently worn on areas exposed to public view, such as the hand, arm, leg, etc. It is therefore frequently desirable that the bandages be as inconspicuous as possible, except where the bandages are for small children who are anxious to display their cuts and scratches.

It has heretofore been proposed to make the flexible backing and adhesive of transparent materials so that the bandage would be less conspicuous when worn. However, bandages in which the flexible backing and adhesive were formed of transparent materials had the disadvantage that the absorbent pad was clearly visible through the transparent adhesive-coated backing.

Absorbent pads are generally formed by folding back the edges so as to avoid unraveling at the edges and to present a smooth and attractive surface. With an opaque backing, only the neat attractive face of the pad is seen. However, with a transparent backing, the unattractive back portion of the pad is clearly visible. Also, when the pad becomes soiled, for example, with wound exudate, the soiled pad is clearly visible through the transparent backing, presenting an unsightly and unattractive appearance. A further difficulty is that when the adhesive at the edge of the bandage becomes soiled in use, the soiled edge is clearly visible, adding further to the unattractive appearance of the bandage.

Even though it was initially proposed to make the backing transparent so that the bandage would be less conspicuous, the bandage was substantially less attractive when worn and, in many instances, because of its unattractiveness, was more noticeable than bandages using an opaque flexible adhesive-coated backing. As a result, even though a large proportion of the adhesive bandages presently prepared have flexible backings made of normally transparent plastics, it has been the practice to add a pigment or pigments to the plastic in order to avoid the unattractive appearance that would result if a clear, colorless transparent backing were used.

It is the object of the present invention to prepare adhesive bandages with transparent film backings in which the absorbent pad is essentially hidden from the view of any casual observer. It is a further object to prepare an adhesive bandage containing markings thereon of such a nature as to render the bandage less noticeable. It is also an object to prepare adhesive bandages

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which, when applied to a skin surface, will blend into the skin background.

Other objects and advantages will become apparent from the following description taken in connection with the accompanying drawings, wherein are set forth by way of illustration and example certain embodiments of this invention.

The above objects are accomplished and a bandage both attractive in appearance and substantially less noticeable, when worn, is obtained if the flexible backing and adhesive are made of transparent materials and the backing is provided with a series of flesh-colored markings so dispersed as to provide alternate, colorless and flesh-colored areas. The markings may take any shape or form. They may be in the form of spaced continuous or discontinuous lines, either intersecting or non-intersecting, in the form of dots, circles, squares, letters, check marks, or any other form which provides with the unmarked areas alternate clear and marked areas so that the surface color under the clear areas shows through the bandage and thus appears to the eye of an observer to blend with the color of the marked areas, making the bandage less conspicuous. By flesh-colored, as herein used, is meant any color simulating that of the natural skin of the wearer and generally varying from a warm pink to a tan or chocolate. A shade found to be most generally suitable is that obtained by blending iron oxide with a trace of carbon black in the following proportions:

	Parts by weight
Rust brown iron oxide	118
Other iron oxide	82
Carbon black	11

When the backing is made of a transparent, virtually colorless material and marked in this manner, not only is the absorbent pad screened from view but the alternate colorless and flesh-colored areas blend so well with the skin of the wearer that at a distance of a few feet it is difficult to determine any line of demarcation between the bandage and the uncovered skin. As a result, the bandage when worn is substantially less conspicuous than are bandages in which the backing is of a clear unmarked material or bandages in which the whole backing is opaque even when flesh-colored. The best results are obtained when the top surface of the flexible backing is not shiny but has a dull finish.

In practicing the present invention, it is generally preferred that the markings are of such character and so spaced that the transparent areas are approximately equal to the flesh-colored areas. However, the ratio of flesh-colored areas to clear areas in the marked pattern can vary substantially and the over-all effect of reducing conspicuousness still be obtained. The markings, however, should not be so large as to themselves become conspicuous at a few feet. It is preferred, therefore, that the markings not be much in excess of about 1/8 inch in width and not be spaced more than about 1/4 inch from each other. In the preferred practice of the present invention, the flesh-colored markings consist of a series of parallel crossing lines, giving a crosshatched pattern. When the bandage is in "strip" form, the lines preferably intersect the parallel edges of the strip at an angle of about 45°. Lines of varying thickness and spacing may be used. It is generally preferred, however, not to use lines having a thickness much in excess of about 1/8 inch or spaced from each other more than about 1/4 inch. Where the lines are of uniform width, uniformly spaced and crosshatched, the transparent area between the lines will be approximately equal to the flesh-colored area covered by the lines when the spacing between the parallel lines is about twice the width of the lines.

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The invention is further illustrated by reference to the drawings in which:

Fig. 1 is a "strip" bandage having markings on the otherwise transparent backing in accordance with the present invention;

Fig. 2 is a top plan view of the back of the bandage of Fig. 1, the facing strips protecting the adhesive having been removed;

Fig. 3 is a view of the face of the bandage of Fig. 2, showing the absorbent pad;

Fig. 4 is a side view of the bandage of Fig. 2 somewhat enlarged;

Fig. 5 is a bandage identical to that of Figs. 1 through 4 with the exception that the markings are omitted;

Fig. 6 is a circular adhesive bandage wherein the markings are in the form of dots;

Fig. 7 is a square-shaped adhesive bandage in which the markings are made with alternate heavy and light lines; and

Figs. 8-17 and 8a-17a illustrate a plurality of different types of markings on adhesive bandage "strips" and "spots."

Bandages of the present invention are illustrated in Figs. 1 through 4 and 6 through 17, including the sub-figures 8a through 17a. Fig. 5 is a view identical to Fig. 2 of a bandage which is the same as the bandage illustrated in Fig. 2, except for the omission of the flesh-colored markings of the present invention. Fig. 5 thus does not illustrate a bandage of the present invention but is included for the purpose of illustrating how readily visible the absorbent pad is when a transparent backing is used without the markings of the present invention.

Referring to the drawings, the adhesive bandage comprises a flexible, somewhat elastic, extensible, transparent backing 10 coated on one side with a pressure-sensitive, clear, colorless, transparent adhesive 11. The center of the bandage contains an absorbent pad 12 secured by the adhesive to the backing. The pad is formed of cotton covered with a piece of gauze 13, the edges 14 of the gauze being folded under as illustrated in Fig. 5. The pressure-sensitive adhesive is protected by facing strips 15, preferably of the type described in Gross U.S. Patent 2,703,083. The ends 16 cover and protect the face of the pad 12. When the bandage is to be used, these protective strips 15 are removed, exposing the pressure-sensitive adhesive 11.

The transparent backing 10 is provided with a plurality of flesh-colored markings. In a preferred form of the invention, these are crosshatched lines 17 spaced approximately  $\frac{1}{16}$  to  $\frac{1}{32}$  of an inch from each other as illustrated in Figs. 1, 2 and 3. The flesh-colored markings 17 together with the interposed transparent areas 18 cause the bandage, when worn, to blend with the skin of the wearer and become almost unnoticeable at a distance of a few feet. As previously stated, it has heretofore been proposed to make the flexible backing and adhesive of transparent materials to make the bandage less conspicuous. However, the difficulty with bandages of this type, as illustrated in Fig. 5, is that the absorbent pad 13 is clearly visible through the transparent backing 10. The flesh-colored markings of the present invention, besides making the bandage blend with the background skin when worn, also hide the pad to the extent that an observer is hardly aware of the same, and any unattractive details of pad construction or soiling are completely hidden. This is well illustrated by comparing the bandages of Figs. 2 and 5.

In Figs. 6 and 7, the bandages are of the "spot" type rather than of the "strip" type, illustrated in Figs. 1 through 4. In Fig. 6, the transparent flexible backing 19 is provided with a plurality of flesh-colored dots 20 which serve the same purpose as the flesh-colored crosshatched lines 17 of Fig. 1. The area 21 between the dots is transparent. The bandage contains the conventional

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absorbent pad 22, hardly discernible because of the markings 20.

In Fig. 7, a somewhat different form of "spot" bandage is shown. This figure also illustrates a different marking design. The marking in this instance consists of alternate crosshatched broad lines 23 and narrow lines 24 with transparent areas 25 between. This bandage also contains the conventional absorbent pad 26, hardly noticeable because of the crosshatched lines 23 and 24.

Figs. 8 through 17 illustrate a series of square-ended adhesive bandages of varying markings and Figs. 8a through 17a illustrate round "spot" bandages having corresponding markings. These figures are essentially to scale, being based on photolithographic reproductions of film backings having different types of flesh-colored markings providing alternating clear and marked areas in accordance with the present invention. Since there is some tendency in the photolithographic reproductions, particularly with markings such as illustrated in Figs. 14 and 16, for the marked areas in the reproductions to run together, the following table is given setting forth the approximate percentage of clear and marked areas as obtained by photometric measurements on the backings used in preparing the figures.

Percent clear and marked areas of backings  
(Figures 8-17)

Figure	Percent un-marked area	Percent marked area
8	54	46
9	43	57
10	34	66
11	67	33
12	55	45
13	51	49
14	35	65
15	54	46
16	26	74
17	77	23

Although any flexible water-resistant transparent film may be used together with any water-resistant transparent pressure-sensitive adhesive, plasticized vinyl chloride films have been found to be particularly suitable. A satisfactory adhesive mass is composed of polyisobutylene and other materials, according to Wing U.S. Patent 2,484,060, in which the opaque filler has been omitted or reduced to a point where it does not overly interfere with the transparency of the mass when applied. Other transparent pressure-sensitive adhesives based on other elastomers or elastomer combinations may be used.

The opaque markings are preferably printed onto the transparent backing using a vinyl base ink. A suitable ink, for example, is a solution of vinyl acetate-vinyl chloride copolymer containing an iron oxide pigment blended with a small amount of carbon black to give the desired color shade.

The printing is preferably on the same side of the transparent backing as the adhesive mass so that the colored markings are viewed through the transparent backing when the bandage is worn. The printing should therefore be applied first and the adhesive mass then applied over the printed surface after suitable priming. Although this is the preferred form of the present invention, the invention is not limited thereto but includes modifications in which the colored markings are on the upper side.

In view of the foregoing disclosures, variations or modifications thereof will be apparent, and it is intended to include within the invention all such variations and modifications except as do not come within the scope of the appended claims.

Having thus described my invention, I claim:

1. An adhesive bandage having markings placed relative to clear areas so that the color of a surface below the clear areas appears to the eye to blend with the color of the markings to make the bandage less conspicuous

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when worn, said adhesive bandage comprising a flexible transparent backing, a pressure-sensitive transparent adhesive on one side of said backing, an absorbent pad carried by said backing on said adhesive-faced side, said backing having a plurality of visible flesh-colored markings providing alternate clear and flesh-colored areas, said markings in width not exceeding  $\frac{1}{8}$  inch and the distance between adjacent markings not exceeding  $\frac{1}{4}$  inch.

2. An adhesive bandage of claim 1 wherein the flesh-colored markings are intermittent.

3. An adhesive bandage of claim 2 wherein the flesh-colored markings are dots.

4. An adhesive bandage of claim 1 wherein the exposed portion of the flexible backing has a dull finish.

5. An adhesive bandage of claim 4 wherein the markings are on the adhesive-containing face of the flexible backing.

6. An adhesive bandage having markings placed relative to clear areas so that the color of a surface below the clear areas appears to the eye to blend with the color of the markings to make the bandage less conspicuous when worn, said adhesive bandage comprising a flexible transparent backing, a pressure-sensitive transparent adhesive on one side of said backing, an absorbent pad carried by said backing on said adhesive-faced side, said backing having intersecting flesh-colored lines, said lines not exceeding  $\frac{1}{8}$  inch in width and the spacing between lines not exceeding  $\frac{1}{4}$  inch.

7. An adhesive bandage of claim 6 wherein the intersecting lines are alternately heavy and light.

8. An adhesive bandage comprising a flexible transparent backing, a pressure-sensitive transparent adhesive on one side of said backing, an absorbent pad carried by said backing on said adhesive-faced side, said backing having a plurality of flesh-colored markings providing alternating clear and flesh-colored areas, the distance between said markings being about  $\frac{1}{32}$  to  $\frac{1}{8}$  inch and said

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markings being so dispersed that the transparent and flesh-colored areas are approximately equal.

9. An adhesive strip bandage comprising a flexible transparent backing, a pressure-sensitive transparent adhesive on one side of said backing, an absorbent pad carried by said backing on said adhesive-faced side, said backing containing a crosshatched pattern in a flesh-colored pigment, the flesh-colored lines forming the crosshatched pattern intersecting the longitudinal edges of the bandage at an angle of about  $45^\circ$ , said lines not exceeding  $\frac{1}{8}$  inch in width and the spacing between parallel lines of said crosshatched pattern not exceeding  $\frac{1}{4}$  inch.

10. An adhesive bandage comprising a flexible transparent backing a pressure-sensitive transparent adhesive on one side of said backing, an absorbent pad carried by said backing on said adhesive side, said backing containing crosshatched lines in flesh-colored pigment, the lines being spaced about  $\frac{1}{8}$  to  $\frac{1}{32}$  of an inch and of such width that the transparent area between said lines is approximately equal to the area covered by said lines.

11. An adhesive bandage comprising a flexible transparent backing, a plurality of crosshatched flesh-colored lines printed on one side of said backing, a pressure-sensitive adhesive coating on said printed side, an absorbent pad carried by said backing on said adhesive-coated side, said crosshatched lines being spaced about  $\frac{1}{8}$  to  $\frac{1}{32}$  of an inch from each other and of such width that the transparent area between said lines is approximately equal to the area covered by said lines.

12. An adhesive bandage of claim 11 wherein the backing face on the side opposite the absorbent pad has a dull finish.

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US005586971A

**United States Patent** [19]  
**Newman**

[11] **Patent Number:** **5,586,971**  
 [45] **Date of Patent:** **Dec. 24, 1996**

[54] **INVISIBLE BANDAGE ASSEMBLY**

[76] **Inventor:** Nancy M. Newman, 819 Spring Dr.,  
 Mill Valley, Calif. 94941

[21] **Appl. No.:** 346,084

[22] **Filed:** Nov. 29, 1994

#### Related U.S. Application Data

[63] Continuation of Ser. No. 964,339, Oct. 21, 1992, Pat. No. 5,368,553, which is a continuation-in-part of Ser. No. 729,463, Jul. 12, 1991, abandoned.

[51] **Int. Cl.<sup>6</sup>** ..... A61F 13/00; A61F 15/00

[52] **U.S. Cl.** ..... 602/58; 602/41; 602/42;  
 602/55

[58] **Field of Search** ..... 602/41-45, 48,  
 602/54-55, 57-59; 604/304, 307

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*Primary Examiner*—John G. Weiss

*Assistant Examiner*—P. Zuttarelli

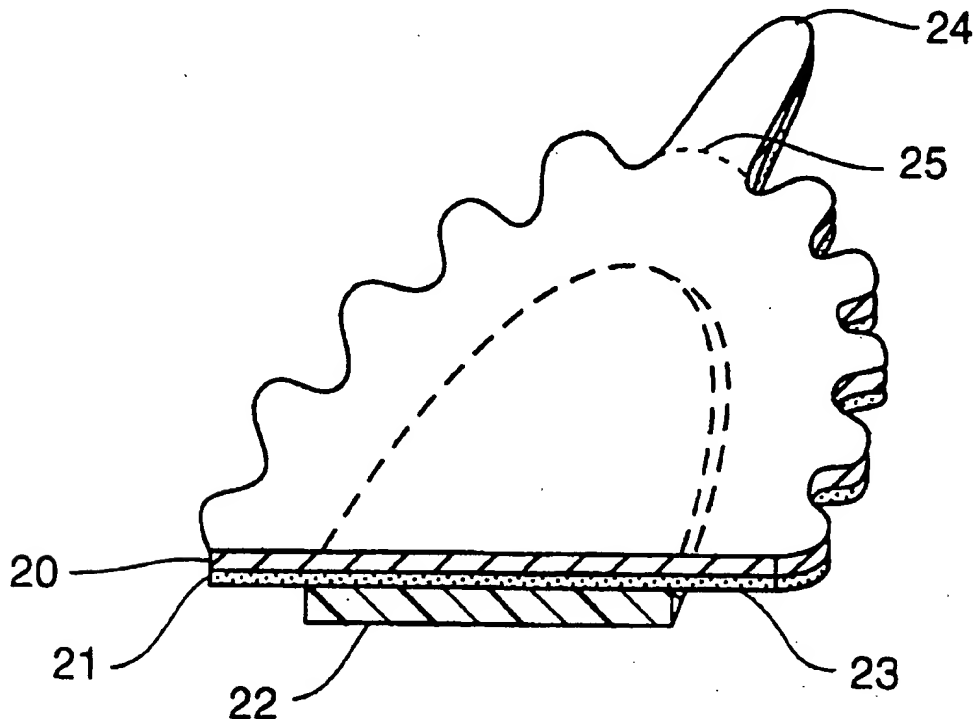
*Attorney, Agent, or Firm*—Morrison & Foerster, LLP

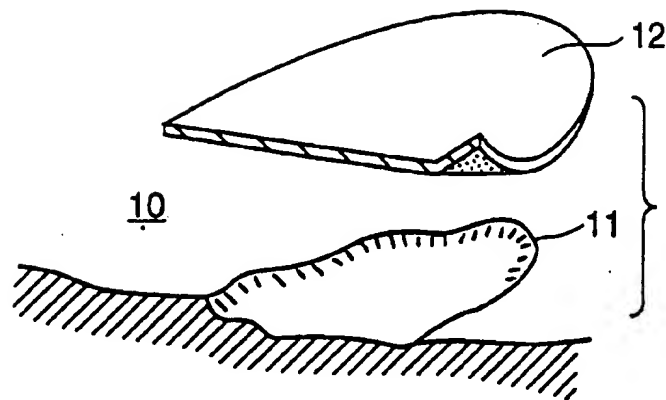
[57]

#### ABSTRACT

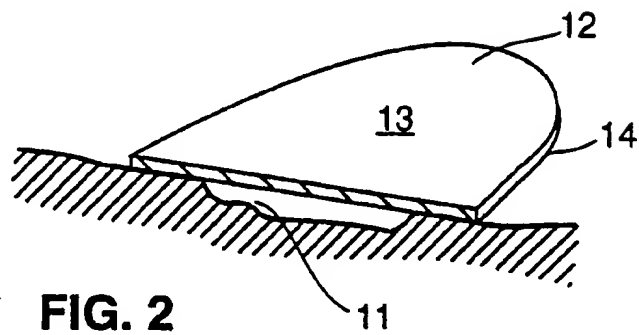
A bandage assembly for concealing a skin wound, blemish or other dermatologic condition comprising: a segment of adhesive tape that is sized and shaped to overlie the site of the wound, blemish or condition and which has a top surface and a periphery; and a layer of make-up that matches the color of the skin and covers the top surface and periphery of the tape and the area of skin immediately surrounding the segment and is smoothed or feathered at its edge to blend with the skin.

1 Claim, 3 Drawing Sheets

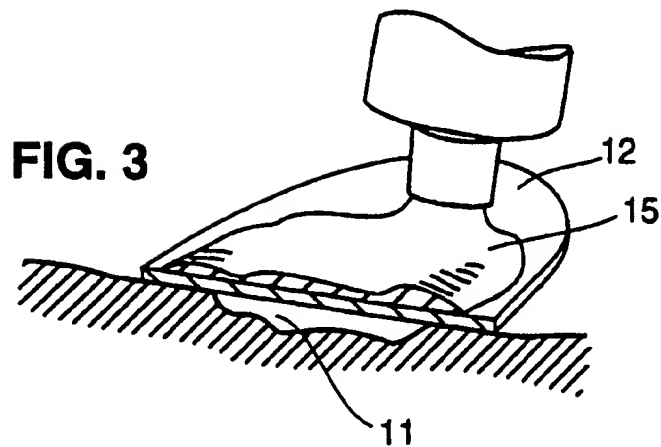




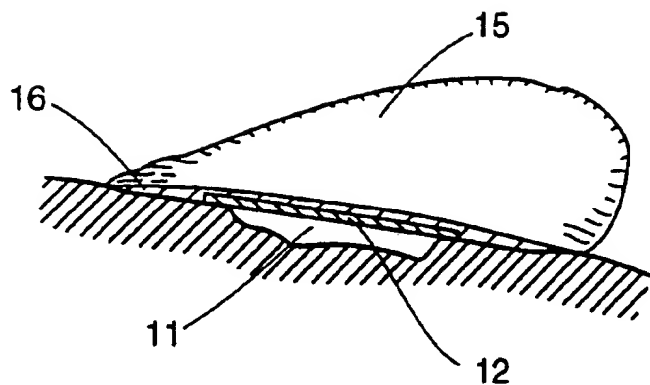
**FIG. 1**



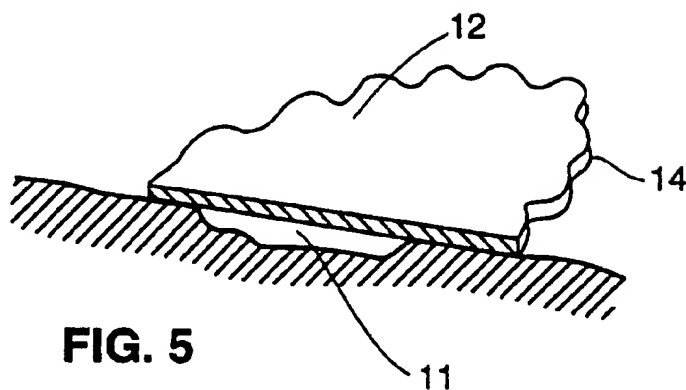
**FIG. 2**



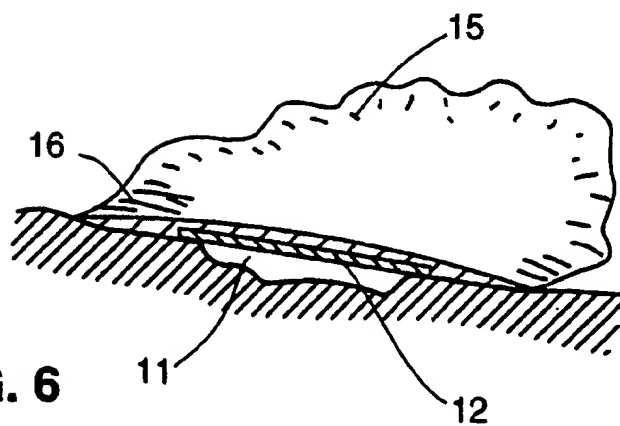
**FIG. 3**



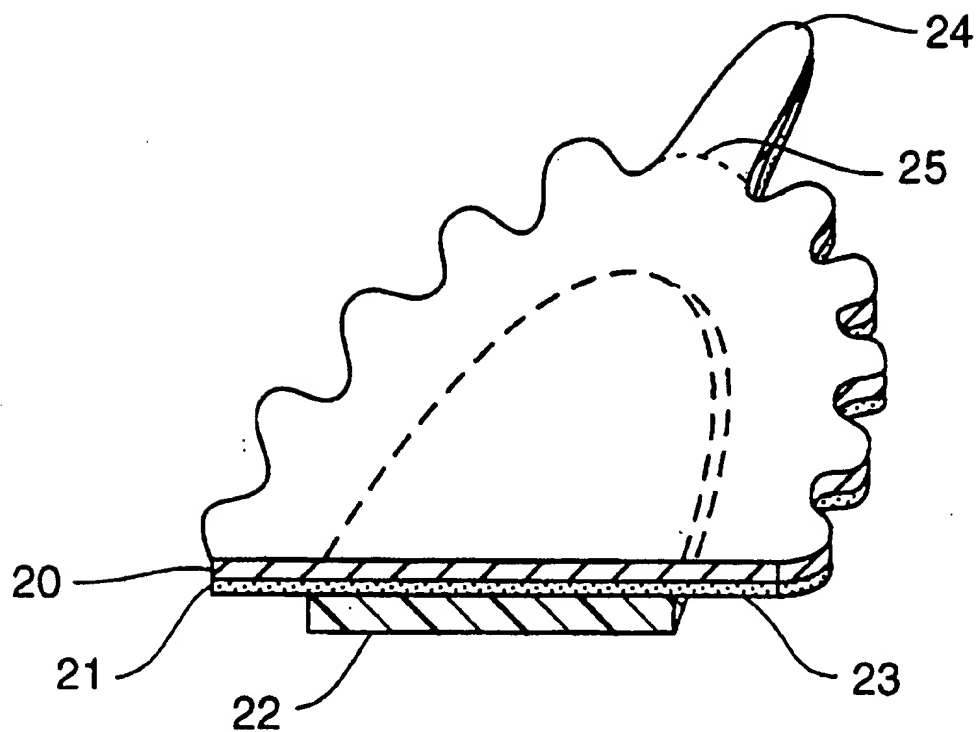
**FIG. 4**



**FIG. 5**



**FIG. 6**

**FIG. 7**

## INVISIBLE BANDAGE ASSEMBLY

## CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation of U.S. application Ser. No. 08/964,339, filed Oct. 21, 1992 now U.S. Pat. No. 5,368,553 is a continuation-in-part of U.S. application Ser. No. 729,463 filed 12 Jul. 1991 now abandoned.

## DESCRIPTION

## 1. Technical Field

This invention is in the medical and cosmetic fields. More specifically, it concerns bandages useful for a variety of medical applications and as dermatologic cover-ups. Still, more specifically, it relates to bandages which are not readily apparent to an observer, that is, "invisible" as that term is defined herein.

## 2. Background of the Invention

There are many commercially available types of bandages of different shapes and sizes, most of which are monochromatic—of a beige color that is apparently designed to match the skin tone of certain Caucasians. Exemplary of such bandages are BAND-AID™ Sheer Bandages.

Also available commercially are a spray-on adhesive-type of bandage, for example, plastic spray-on bandages. Such spray-on bandages produce a relatively transparent cover which is generally occlusive and tends to dry and crack.

There is a need in the art for bandages which can be used to perform medical functions in a cosmetically acceptable manner and/or to provide coverage for unsightly dermatologic conditions. This invention fulfills that need and further meets other requirements that are desirable for cover-ups and wound dressings.

The "invisible bandages" of this invention are flexible and conform to the contours of the section of the body to which they are to be applied, and when medically appropriate, have a specified degree of occlusivity and/or are non-adherent to wounds. The invisible bandages of this invention are not only designed to be cosmetically acceptable and comfortable, but also can be used to promote wound healing and provide vehicles for applying a variety of medicaments. Rather than being monochromatic, the invisible bandages of this invention are designed to match the skin of the individual to whom the bandage is to be applied, no matter what color the individual's skin is.

## DISCLOSURE OF THE INVENTION

One aspect of the invention is a bandage assembly for concealing a section of skin on a person comprising (a) a segment of adhesive tape attached to the skin over said section, said segment having a top surface and a periphery; and (b) a layer of make-up having a coloration that matches the coloration of said section, said layer covering said top surface and periphery of the tape and the skin outwardly adjacent said periphery, thereby concealing said section and the segment of adhesive tape.

Another aspect of the invention is a method of concealing a section of skin on a person comprising affixing a segment of adhesive tape over said section, said segment having a top surface and a periphery, and covering the top surface and periphery of the segment of adhesive tape and the skin outwardly adjacent said periphery with a layer of make-up having a coloration that matches the coloration of the skin, thereby concealing said section and the segment of tape.

## BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, which are not to scale:

FIG. 1 is a sectional plan exploded view of a skin wound and a segment of adhesive tape adapted to cover the wound;

FIG. 2 is a sectional plan view of the wound covered with the tape;

FIG. 3 is a sectional plan schematic view showing make-up being applied to the top face surface of the tape;

FIG. 4 is a sectional plan view of the wound covered with the tape and make-up;

FIGS. 5 and 6 are sectional plan views of an alternative embodiment of the bandage assembly shown in FIGS. 1-4.

FIG. 7 is a sectional plan view of another embodiment of the invention.

In the drawings like parts or elements are referred to by the same reference numerals.

## DETAILED DESCRIPTION OF THE INVENTION

This invention provides for cosmetically acceptable wound/blemish covers which conform to skin contours and surfaces, are porous to promote healing and can, if medically appropriate, provide a therapeutic environment in which a wound can heal or a blemish, such as a pimple, can speedily recede. Such covers are herein termed "invisible bandages" wherein that term is defined within the context of this invention as bandage assemblies that are not readily apparent to an observer in that they blend with the skin of the person to whom they are applied and have a feathered edge that makes the transition between the assembly and the skin less discernible.

The invisible bandages match the skin of the person to whom they are applied in that the make-up is selected to match the skin appearance (color, texture, reflectivity) and applied to the bandage in such a manner as to camouflage the bandage. The matching make-up can be any type of make-up including liquid, cream or stick types, provided they have the flowability and malleability to be able to be spread to effectively cover the underlying adhesive tape. Ideally, the make-up is non-greasy, non-smearable, matches the appearance of the skin to which it is applied (i.e., closely resembles the skin in coloration, texture or finish, and reflectivity), is sterilizable, and retains its appearance on both skin and the underlying adhesive tape upon drying and aging. Opaque make-ups having such characteristics may be obtained from commercial sources or custom formulated. They will typically contain vehicles, solvents, emollients, pigments, surfactants, and reflective materials. Examples of commercially available make-ups are those manufactured by Revlon, Inc., Charles of the Ritz Group, Ltd., Noxell Corp., Estee Lauder, and Orlane. "Cover-up" cosmetics such as DERM-ABLEND™ cosmetics and COVERMARK™ cosmetics may also be used. As used herein, the term "match" is not limited to identity of appearance but intends to include make-ups that closely resemble the skin appearance.

There are many different embodiments for the invisible bandages of this invention. The invisible bandages can be made in any shape to conform to the contours of the surface and site to which they are to be applied. They are flexible, porous and have a low potential for sensitization. They can be modified to provide therapeutic environments for wound closure and healing.

However, for some uses wherein a wound, such as an abrasion, tissue rupture or surgical opening, is not present,



thinness of the bandage assembly may be a very important criterion to maximize the cosmetic acceptability of the bandage. For example, it may be desired to conceal the presence of a scar, keloid or birthmark. For such uses among others, a representative invisible bandage of this invention comprises an adhesive tape, preferably a paper tape, more preferably a micropore-type of paper tape to which is applied a make-up that matches the skin tone of the person to whom the assembly is applied. It is preferred that the tape be applied first and that the make-up then be applied over the tape and blended around it such that both the underlying skin and the tape are concealed.

The tape used for the bandages of this invention can be any kind of tape that can be applied to skin without harm, for example, surgical tape. The tape for the invisible bandages of this invention are those tapes which are preferably flexible and have a texture that retains the cosmetic cover, preferably a paper tape. The paper tape is preferably a micropore-type of paper tape. Examples of paper types useful in this invention are SCANPOR™ surgical tape and 3M 1529 paper tape. It has been found that the tackier the tape is, the better it is as a component of the invisible bandages of this invention.

Another preferred representative embodiment of the invisible bandages of this invention is one that comprises in addition to the tape, preferably paper tape, more preferably a micropore-type of paper tape to which the matching make-up is applied, a thin layer of a non-adhesive material that underlies a central portion of the paper tape, for example SUCH™. The non-adhesive layer prevents the tape from sticking to the surface of a wound, lesion, abrasion or dermatologic eruption, and thereby promotes the healing process by presenting a non-disruptive surface. It also makes the-tape occlusive or semi-occlusive (i.e., it is permeable to gases, impermeable to pathogens, and has limited permeability to water vapor).

Another preferred representative embodiment of the invisible bandages of this invention comprises the adhesive tape, preferably paper tape, more preferably a micropore-type of paper tape to which the matching make-up is applied, a thin layer of non-adhesive material, and in addition, a middle layer between the tape and non-adhesive material, wherein said middle layer comprises an absorptive material and/or materials, such as GORTEX™, which are air permeable but permeable to liquids and vapors in varying degrees. The absorptive material, for example surgical gauze, gel or hydrocolloid, can be impregnated with medicaments, alone or in combination, that promote wound healing, for example, epidermal growth factors, steroids, antibiotics, hormones and other healing factors that promote therapeutic environments. Exemplary of such medicaments is a topical gel such as a formulation of Slindamycin phosphate, or a drying lotion such as that produced by Halina Andre Ltd.

In certain types of wounds, a moist environment for healing is desirable. In such cases, the absorptive material in the middle layer of the invisible bandage may be air permeable but not particularly liquid permeable. Alternatively, the middle layer may comprise a material such as GORTEX™ which is permeable to air but only in varying degrees permeable to liquids and vapors and is impermeable to pathogens such as bacteria, either alone or in combination with an absorptive material.

Another representative embodiment of the invisible bandages of this invention would be that wherein the non-adhesive layer is not required or is not preferred. For example, a preferred environment for healing may require

that an absorptive material impregnated with an appropriate medicant be directly in contact with the wound, abrasion or dermatologic eruption. One embodiment to meet that requirement would be that wherein the invisible bandage comprises tape, preferably paper tape, more preferably a micropore-type of paper tape to which the matching make-up is applied and absorptive material which is appropriately impregnated and upon application of the bandage would be in direct contact with the patient's skin. Another embodiment of this invention which would meet the same requirement is that wherein a material, such as GORTEX™, which is air permeable but permeable to liquids and vapors in varying degrees, is located in between the tape and an absorptive material layer that is impregnated with a liquid medicament. Thus, in that latter embodiment, the absorptive material would be directly in contact with the skin's surface supplying a therapeutic environment for whatever dermatologic condition is present which environment is further maintained by the presence of the air but variably liquid impermeable material just above the absorptive material.

A still further representative embodiment of this invention is that wherein the invisible bandage comprises tape, preferably paper tape, more preferably a micropore-type of paper tape to which the matching make-up is applied and a material, such as GORTEX™, which is air permeable but variably liquid impermeable. Such an embodiment would be preferred wherein a moist environment is desirable for the dermatologic condition, but topical applications are not necessary or are not preferred.

In another embodiment of the invisible bandages of this invention, medicaments, such as antibiotics, epidermal growth factors, drying lotions among others, are added to the matching make-up, preferably wherein the make-up is of a liquid type. For example, in such an embodiment, the invisible bandage could comprise an appropriate type of tape and make-up to which has been added the appropriate medicament or medicaments. Another version of such an embodiment wherein the make-up contains a therapeutic agent is that which comprises an appropriate type of tape and a layer of absorptive material, such as surgical gauze, gel or hydrocolloid; whereas still another version would further compromise another thin layer of a non-adhesive material that would be in contact with the patient's skin. Of course, in such an embodiment wherein the make-up is liquid and contains one or more therapeutic agents, it would not be preferred for the invisible bandage to comprise a layer of material that is particularly liquid impermeable.

The drawings further illustrate specific embodiments of the bandage assembly of the invention.

FIGS. 1-4 depict one embodiment of the bandage assembly of the invention and the procedure by which the assembly of the invention is applied to the skin.

FIG. 1 shows a section of human skin, designated 10, that has a wound 11 in it. A segment of adhesive tape 12 that is sized and shaped to overlie the wound is placed over the wound as shown in FIG. 2. Such occlusion of the wound protects the wound and promotes healing. The segment has a top surface 13 and a periphery 14. A flowable or malleable make-up formulation, designated 15 in FIGS. 3 and 4, is applied to the top surface as shown in FIG. 3 and then is spread to cover the periphery of the tape segment and the area of skin immediately surrounding the periphery. As shown in FIG. 4 the make-up is smoothed and feathered in the area 16 outwardly of the periphery at a downward (toward the skin) angle from the periphery, so as to lessen the visibility of the transition, junction or edge between the

make-up and the skin. As indicated, the appearance (coloration, texture, reflectivity) of the make-up is chosen to match the appearance of the skin. Such matching and the edge feathering of the make-up serve to conceal the assembly from casual observation.

FIGS. 5 and 6 depict a second embodiment of the assembly. This second embodiment is identical to the embodiment shown in FIGS. 1-4 except for the configuration of the periphery of the segment of the adhesive tape. Specifically, the embodiment of FIGS. 1-4 has a regular-shaped periphery (i.e., the segment has a smooth oval shape) whereas the periphery of segment of tape of the embodiment of FIGS. 5 and 6 has an irregular curvilinear shape. It is believed that an irregular-shaped assembly is even less discernible than a regular-shaped assembly and may adhere better to curved surfaces of the skin. Of course, it is within the scope of the invention to use a tape segment of virtually any shape.

FIG. 7 illustrates a preferred embodiment of a tape structure that is especially adapted to conceal a wound or blemish. The tape of FIG. 7 is a three layer laminate composed of an upper paper backing layer 20, an underlying pressure-sensitive adhesive layer 21, and a central wound release layer 22 made of a material such as polyurethane which does not adhere to wounds or blemishes. As shown, layer 22 is not coterminous in size with layer 21 so that a peripheral ring 23 of exposed adhesive surrounds layer 22. This ring provides the means by which the assembly is affixed to the skin. As further shown, the assembly has a scalloped edge and the backing is provided with a removable tab, 24 that facilitates its removal from a conventional release liner layer (not shown). The backing is scored at 25 across the neck of the tab to facilitate removal of the tab from the remainder of the tape.

The invention further concerns methods of bandaging or dressing wounds in a cosmetically acceptable fashion and of concealing unsightly dermatologic conditions, such as birthmarks, scars, keloids, allergic reactions, varicose veins, bruises among others. An exemplary method of this invention comprises applying an appropriate segment of adhesive tape according to this invention as described above to conceal the dermatologic condition, and then applying make-up to the top surface and periphery of the tape and the immediately adjacent skin wherein said make-up matches the skin tone of the individual and is applied in such a manner as to conceal the periphery of the tape.

This invention still further provides for methods of non-surgically lifting facial or other bodily wrinkles and sags of the skin. A representative example of such a method com-

prises applying an appropriate tape according to this invention, preferably paper tape, more preferably a micropore-type of paper tape just next to the hairline of an individual who desires a non-surgical face-lift in such a manner as to pull up the skin below the bandage so that the skin appears more taut and smooth than it had appeared. The make-up that matches the skin tone of the person undergoing the non-surgical face-lift is applied in a manner that causes the bandage to blend with the person's complexion. The invisibility of the tape can be enhanced by appropriate hair styling.

The kits of the invention will comprise in packaged combination: (1) one or more segments of adhesive tape that are adapted to be affixed to human skin, and (2) a container of make-up having a predetermined coloration. The kits may contain additional containers of make-up of various coloration. The segments may be of various pre-cut sizes and shapes or be of one size that may be cut to the desired size and shape. The kits may also contain instructions for applying the tape and make-up to the skin.

The present invention is not to be considered limited in scope by the specific embodiments described above, since the described embodiments are intended only to be illustrative of particular aspects of the invention. Modifications of the above-described embodiments and modes for carrying out the invention that are obvious to those of skill in the medical and cosmetic arts are intended to be within the scope of the following claims.

I claim:

1. A bandage assembly comprising tape, wherein said tape is a three layer laminate consisting of

- (a) an upper paper backing layer,
- (b) an underlying pressure-sensitive adhesive layer which is coterminous in size with said upper paper backing layer, and
- (c) a central wound release layer which does not adhere to wounds or blemishes; is not coterminous in size with said upper paper backing layer and the underlying pressure-sensitive adhesive layer and thereby providing a peripheral ring of exposed adhesive

and further wherein said assembly has a scalloped edge and a removable tab.

\* \* \* \* \*